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A.D. 1872, 30th APRIL. N° 1299.

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**Apparatus for Producing Medicinal Vapours.**

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**LETTERS PATENT** to James Bending, of 439, Oxford Street, in the County of Middlesex, for the Invention of “**IMPROVEMENTS IN APPARATUS FOR PRODUCING VAPOURS FOR MEDICINAL PURPOSES.**”

Sealed the 2nd July 1872, and dated the 30th April 1872.

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**PROVISIONAL SPECIFICATION** left by the said James Bending at the Office of the Commissioners of Patents, with his Petition, on the 30th April 1872.

I, JAMES BENDING, of 439, Oxford Street, in the County of Middlesex,  
5 do hereby declare the nature of the said Invention for “**IMPROVEMENTS IN APPARATUS FOR PRODUCING VAPOURS FOR MEDICINAL PURPOSES,**” to be as follows :—

This Invention relates to apparatus for producing a combination of air and moist vapour for inhalation into the human body, the combined air  
10 and vapour being impregnated by coming into contact with a chemically prepared medium for curing or relieving diseases.

The apparatus consists of a vessel of suitable form, into the lid on upper part of which a perforated or gauze cup or cylinder is placed for containing leaves of plants, sponge, or other material impregnated with



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chemical ingredients or other body which can be acted upon by the steam or vapour generated in the main vessel from heat derived from a gas or other flame. The upper part of the vessel has an outlet tube for the impregnated steam or vapour; it is provided with a perforated disc or wire gauze and a flap valve bearing upon a seating on the inner end of 5 an air pipe or tube, through which atmospheric air is free to enter to mingle with the vapour when it is being drawn into the mouth through the main tube. The air tube and also the main tube are provided with taps to shut off communication with the vessel as desired.

I propose to place a safety valve or a steam whistle upon the dome 10 or cover of the main vessel to indicate the inward pressure. The filling of the vessel is governed by a properly closed tap or nozzle.

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said James Bending in the Great Seal Patent Office on the 30th October 1872.

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TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES BENDING, of 439, Oxford Street, in the County of Middlesex, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Thirtieth day of April, in the year 20 of our Lord One thousand eight hundred and seventy-two, in the thirty-fifth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Bending, Her special licence that I, the said James Bending, my executors, administrators, and assigns, or such others as I, the said James Bending, my executors, 25 administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS** 30 **IN APPARATUS FOR PRODUCING VAPOURS FOR MEDICINAL PURPOSES,**" upon the condition (amongst others) that I, the said James Bending, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain



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the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

5    **NOW KNOW YE**, that I, the said James Bending, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, reference being had to the Drawings here-  
unto annexed, that is to say :—

10    This Invention relates to apparatus for producing a combination of air and moist vapour for inhalation into the human body, the combined air and vapour being impregnated by coming into contact with a chemically prepared medium for curing or relieving diseases.

    The apparatus consists of a vessel of suitable form, into the lid or  
15 upper part of which a perforated or gauze cup or cylinder is placed for containing leaves of plants, sponge, or other material, impregnated with chemical ingredients or other body which can be acted upon by the steam or vapour generated in the main vessel from heat derived from a gas or other flame. The upper part of the vessel has an outlet tube for  
20 the impregnated steam or vapour; it is provided with a perforated disc or wire gauze and a flap valve bearing upon a seating on the inner end of an air pipe or tube, through which atmospheric air is free to enter to mingle with the vapour when it is being drawn into the mouth through the main tube. The air tube and also the main tube are provided with  
25 taps to shut off communication with the vessel as desired.

I propose to place a safety valve or a steam whistle upon the dome or cover of the main vessel to indicate the inward pressure. The filling of the vessel is governed by a properly closed tap or nozzle.

The Invention will be clearly understood by the annexed Sheet of  
30 Drawings and by the following description thereof, the same letters of reference being used in the respective Figures.

Figure 1 is a sectional view of the apparatus, *a* being the exterior case of tin or other metal with a contracted neck *b*, the top edge or rim *c* of which is formed with an inner flange for supporting a perforated cup *d*  
35 in which herbs, leaves of plants, sponge, or other material, impregnated with, say, vinegar or chemical ingredients; *e* is a branch of conical shape.



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secured to the upper part of the vessel *a* ; in the hollow of this conical branch I place sponge, asbestos, or other medium if desired, to prevent the direct passage of steam into the mouth of the patient or invalid when he draws through the mouth piece *f*, the tube *g* of which is provided with a tap *h* to shut off the communication while the steam is being 5 raised by the heat of a gas jet or other flame applied to the curved bottom of the vessel *a*. I also provide this tube with a ball and socket joint *i* to enable the apparatus to be used by a patient or invalid while in a recumbent position ; *j* is a tap in an air tube *k*, whose inner end passes across the vessel and terminates in the cone *e*, the face of it being 10 furnished with a flap valve *l*, shown in Figures 1 and 2, so that in drawing the steam into the tube *g* a quantity of atmospheric air is drawn through with it. The cap or cover *m* has a pillar or hand hold *m*<sup>1</sup> for screwing it on and off by, and this forms an indicator of an excessive pressure of steam within the vessel, the pillar *m*<sup>1</sup> being hollow and cut to act as a 15 whistle.

The water or other liquid to be used is placed into the vessel through the opening *n* and then the plug *p* is screwed on to close the opening ; the herbs or other materials are then placed in the cup or receiver *d* and the two taps *h* and *j* closed ; the cover is then screwed on and a flame 20 applied to the under part of the vessel whereby steam is generated. The heating of the vessel causes the herbs or other material to take up moisture and to become saturated, so that the liquid after a time, so to speak, is a decoction or an infusion, containing more or less medicinal properties for the relief of asthma and other pulmonary complaints and 25 diseases. The vessel has on one portion a glass tube *q* to indicate the height of the liquid in the vessel, and also a thermometer, as in Figure 2, to indicate the degree of heat. By this means the use of the apparatus is entirely free from any objection, and can be attended to by the patient himself, he regulating the opening and closing of the taps, the strength 30 of the flame, and consequently, by watching the thermometer, the exact heat at which he should inhale the steam and air through the mouth piece.

I have spoken of water as the liquid employed in the vessel, and I intend thereby to include not only pure water but perfumed or chemically 35 prepared liquids, or vinegar, so that on the herbs or the leaves of plants in the perforated cup becoming saturated the desired taste is imparted to the air in its passage.



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If herbs or leaves of plants are employed I in some cases use a false bottom *s* in the cup to facilitate their removal when all the goodness has been withdrawn from them, but this is not essential, as on the cup being removed and turned upside down they will fall out in the usual way. If  
5 I do use the false bottom I attach bent-ended wires *t, t*, to it, to enable it to be lifted easily.

The plug of the filling-in aperture may have a perforated cap *r* or screen upon or in it, see Figures 1 and 3, so that a perfumed or a deodorizing agent can be spread into an apartment, the strength of  
10 which agent can be regulated by the flame or by the sizes of the perforations in the plug as desired.

The cup *d* is perforated more or less the whole of its length vertically, so that should there be a necessity for the herbs, leaves, or other body placed in it to be actually immersed in the liquid, the  
15 quantity and consequently the height of the liquid can be increased to any extent.

And having now described the nature of my said Invention and in what manner the same is to be performed, I declare that I claim,—

Firstly. The apparatus constructed as herein-before described and  
20 shown, in which moist vapours and air can be produced in combination for the purposes set forth.

Secondly. I claim the general arrangement and combination of appliances, substantially as shown and described, for facilitating the holding and the heating of liquids and other bodies for impregnating  
25 atmospheric air to be inhaled into the human body for curing or relieving pulmonary and other diseases.

In witness whereof, I, the said James Bending, have hereunto set my hand and seal, this Thirtieth day of October One thousand eight hundred and seventy-two.

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JAMES BENDING. (L.S.)

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